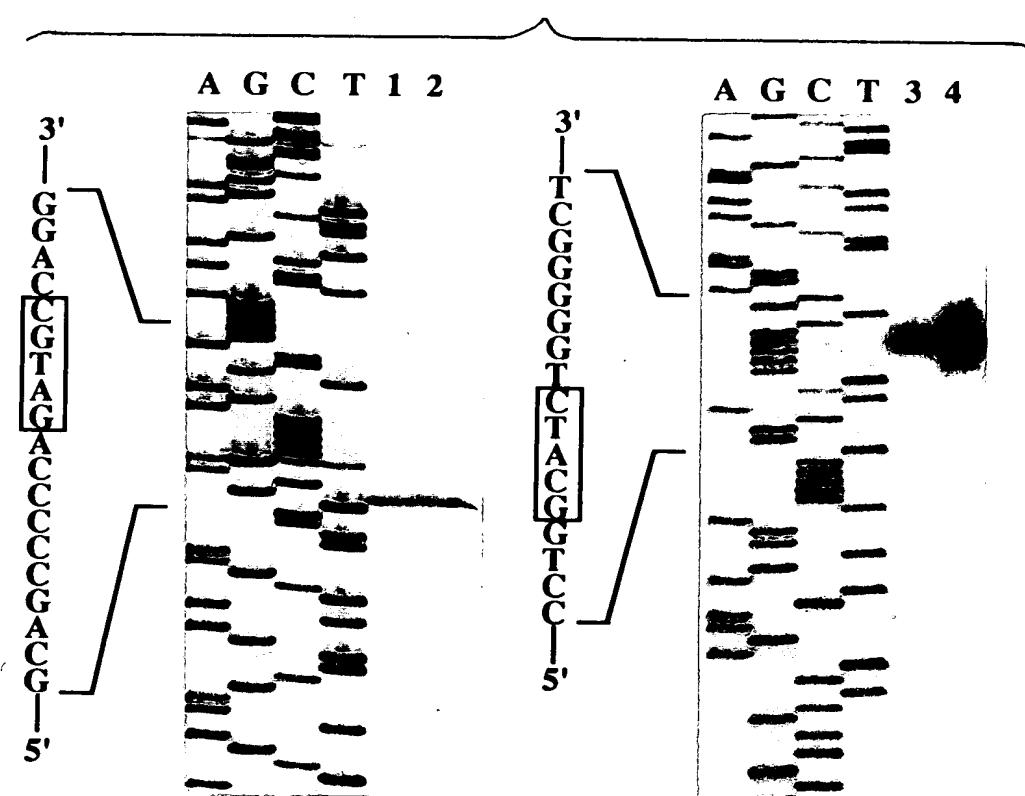




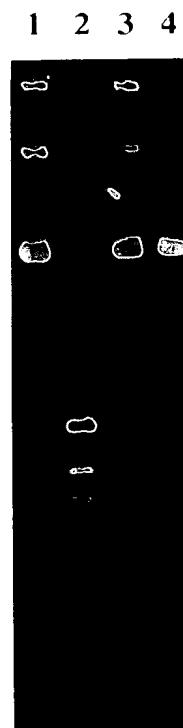
FIG. 1





Construction of *Pasteurella haemolytica* Vaccines
09/210,747, Filed 12/15/98
Briggs & Tatum
B&W Ref: 000295.77957
Page 2 of 7

FIG. 2



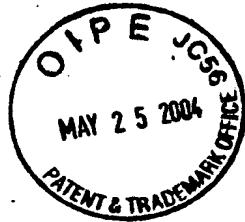


FIG. 3

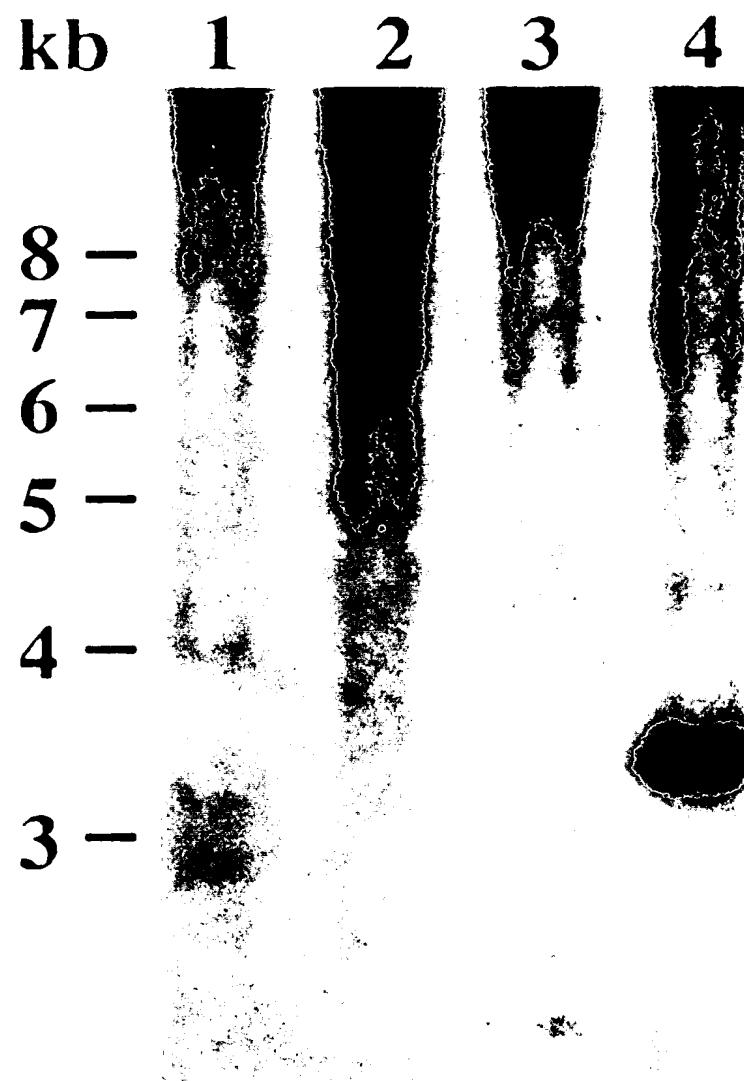




FIG. 4A

TATGGCCATTACTGGTGAAACCGTATTGGAAAGTGTAGCCATTACCTTATTGGATGGCTTACAGGGTTACCCATTACGGATTAGTATGCCATTACGGATTACCG
 CAAGAAAACGAGAATTTTAACTTGTAAACAGGGTATTGGCTGATAGCAGGTATTGGAAATTTTACCAAGGGTTACCCATTACGGATTACGGATTACCG
 120 150 180
 AAAATGGAAAACCTAAACTTTAACCCGATTCCGGACTAGAAGGGAGATCAATTACCTGGGTCTAAAGGCCCTTAACCGGAGCTTA
 M E K L T P I S R V E G E I N L P G S X S L S N R A L
 210 240 270
 TTATTAAGCCGCTTACCCGTTACCTCAAGTACCAATTATTAGATAGTGTAGCATATTGGACATTAGCTCATAGCCTTAAGCG
 L L A A L A T G T T Q V T N L L D S D D I R H M L N A L K A
 300 330 360
 TTAAGGGTGAATATGAGCTTATCCTGACTTGAGGGATTCTGGAGCTTTAAGGTCAAAACGGTTATCA
 L G V K Y E L S D D K T V C V L E G I G A F K V Q N G L S
 390 420 450
 CTGTTCTCGGCAATGCCAGGGACGGCAATGGGACCCACTTGCAGGACCATTTGTTAAAGCTGGGGAAAATCCCAATTATCTTAC
 L F L G N A G T A M R P L A A L C L K G E E R S Q I I L T
 480 510 540
 GGTGAACCAAGAATGAAAGAACGCCGATTAAACACTTATGCTGATGCTTACGCCAAGTAGCTGGGGCAAGGTACAGTTTAAAGTGA
 G E P R M K E R P I K H L V D A L R Q V G A E V Q Y L E N E
 570 600 630
 GGCTATCCACCGTTGGCAATTAGCCATTAGCGTTGGAGGGGGAAAGTCCAAATTGCGGTCTGAACTTCAGGCCAATTCTAACCGCA
 G Y P P L A I S N S V C R G K V Q I D G S E S Q F L T A
 660 690 720
 TTAGCTGATGCTGCCATTAGCCATTAGCGTTGGAGGGGGAAAGTCCAAATTGCGGTCTGAACTTCAGGCCAATTCTAACCGCA
 L L M S A P L A E S D M E I E I I G D L V S X P Y I D I T L
 750 780 810



FIG. 4B

840 TCGATGATGAAACGATTGGTATTACGGTGGAAATCGAGATTACAAACCTTTTACTTAAGGTAACACAGCTATGTTGCTCCACAA
 S M N D F G I T V E N R D Y R T F L V K G R Q G Y V A P Q
 870
 900
 G N Y L V E C D A S S A S Y F L A S G A I K A G K V T G I G
 GGTAAATTGGTGGAGGGAGATGGCTCTTCGCTCTTATTCTTAGCCTCCGGTGGATTAAAGCTAACGGCATTTGGT
 930
 960
 990
 AAAAATCGATCCAGGCCACCGCTTGGTGGAAAGAAATCGGGGAAAGAAATCACTTCCGGAGAGGATTTTATTCAAGCC
 K K S I Q G D R L F A D V L E K M G A K I T W G E D F I Q A
 1020
 1050
 1080
 GAGCAATCCCCCTAAAGGGCTAGATATGGCATATGAAATCGATTCTGATGGCAACACGGCTTTATTGCGGAA
 E Q S P L K G V D M N H I P D A A M T I A T T A L F A E
 1110
 1140
 1170
 GGAGAAACAGTTATCGGAATATTATAACTGGGGGAAAGGATTTCGGATTCGGGAAACCGGAACTGGATTGCGTAAGTCGG
 G E T V I R N I Y N W R V K E T D R L T A M A T E L R K V G
 1200
 1230
 1260
 GCAGAGCTAGAAGAAGGGAAAGGAAGGGGAAGAAGGTTTATTCGGATTCACCGCTTGGCTTAGAAAACCTCCAGCACCG
 A E V E E G E E D F I R I Q P L A L E N F Q H A E I E T
 1290
 1320
 1350
 TATAACGATCACCGTATGCCATATGCTTTCATTAATTCGGATTCATCGAATAAGTACGCTGAATATGCTGAAATGAAACC
 Y N D H R M A M C F S L I A L S N T E V T I L D P N C T A K
 1380
 1410
 1440
 ACGTTCCGACTTACTTTAGGGACTTGGAAAAATTATTCGCTCACATTAAGGTTACGTTTACGCTAA
 T F P T Y F R D L E K L S V R *
 1470
 1500
 1530
 ATTGTGGCAGACTAAGCCAAACCGCT



FIG. 5

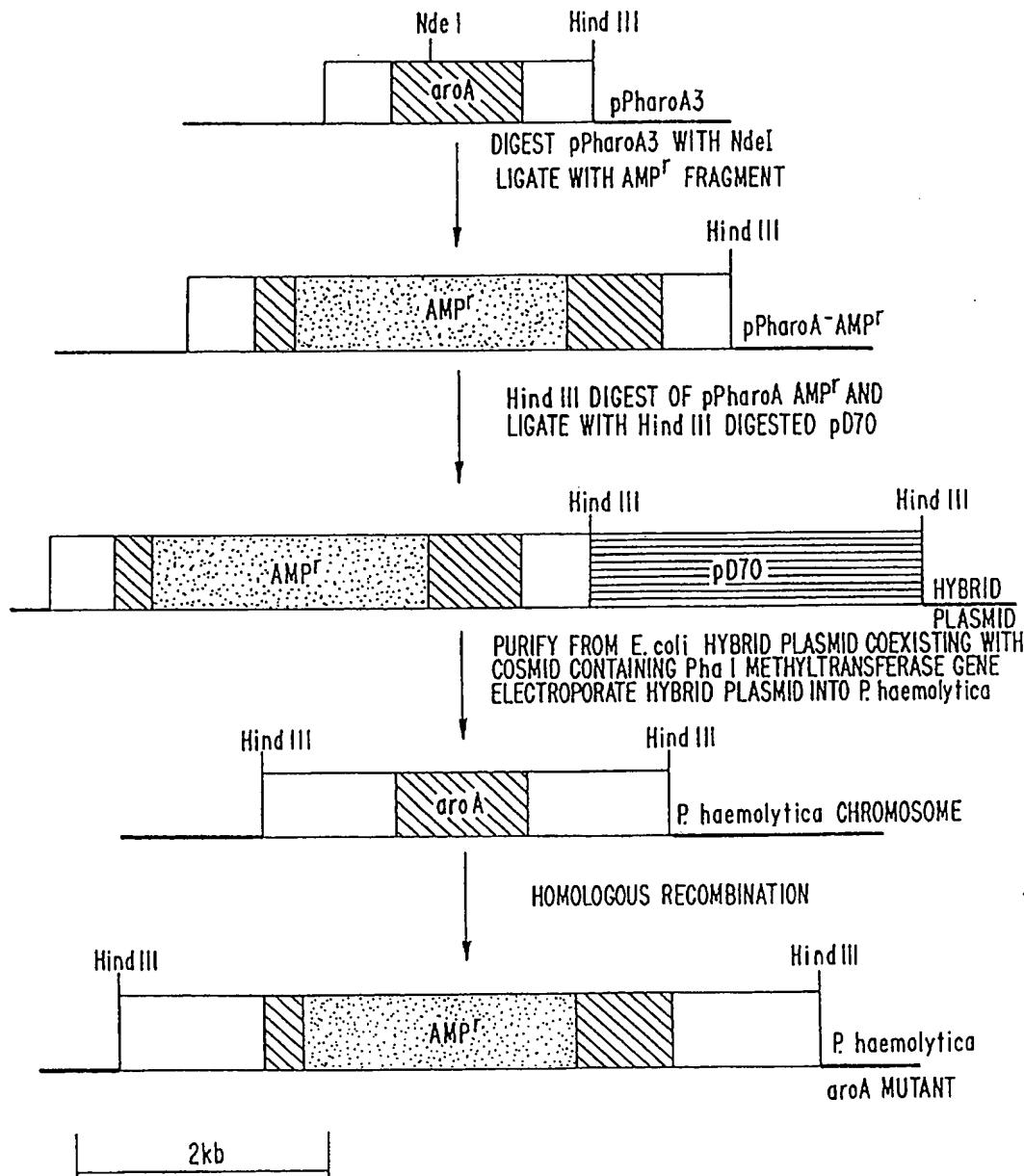




FIG. 6

